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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/741,194 | 12/21/2000 | Tatsuya Ishii | 040373/0301 | 7016 |

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FOLEY & LARDNER

Washington Harbour

3000 K Street, N.W., Suite 500

P.O. Box 25696

Washington, DC 20007-8696

EXAMINER

DEPPE, BETSY LEE

ART UNIT

PAPER NUMBER

2634

10

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,194

Applicant(s)

ISHII, TATSUYA

Examiner

Betsy L. Deppe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7.8.9.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. The abstract of the disclosure is objected to because it compares the invention to prior art. Correction is required. See MPEP § 608.01(b).

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4. The disclosure is objected to because of the following informalities:

on page 5, lines 11 and 15, the brackets should be deleted; and

on page 11, line 22, "diital" should be "digital".

Appropriate correction is required.

Claim Objections

5. The claims are objected to because of the following informalities:

in claim 1, line 6, "a gain signal, which is output of" should be "a gain signal **that is outputted from**" (see claim 2, line 4);

in claim 2, line 4, "a gain signal" should be "**the** gain signal";

in claim 2, lines 10-11, "that selects and outputs from each output of a shift register" is grammatically awkward;

in claim 3, line 5, "a" should be inserted before "gain";

in claim 3, lines 10, 11, 12, 13 and 15, "the" should be inserted before "output";

in claim 4, line 7, "switch" should be "switches";

in claim 5, line 7, "switch" should be "switches".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 2 and 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. With regard to claim 2, it is unclear whether the first multiplier is multiplying the gain signal with input data (see claim 1, lines 5-7) *and* a coefficient sequence (see claim 2, lines 5-7) (i.e. there are three input signals to the first multiplier). Or whether the coefficient sequence is the input data (i.e. there are two input signals to the first multiplier). Furthermore, it is unclear whether "input data" in claim 2, line 9 is the same as "input data" in claim 1, line 6.

9. With regard to claims 4 and 5, it is unclear what is meant by the limitation recited on lines 3-6 of the respective claims.

10. With regard to claims 6 and 7, it is unclear what is meant by the recited limitation. Furthermore, "n" and "m" are not defined in the respective claims.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sanyo Electric Co. Ltd. (JP 05-152897, cited in the IDS filed August 27, 2002, Paper No. 8).
(See Figure 1 and the abstract)

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Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 1 is also rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art shown in Figure 1 of the application. The admitted prior art shown in Figure 1 of the application discloses the claimed limitation except for incorporating the gain regulation circuit inside the digital filter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate/combine components 51-53 into one device in order to reduce the circuit size by using a single IC component to implement the circuit and designating the single IC component as a "digital filter."

15. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art shown in Figure 2 of the application and Wittig et al. (US Patent No. 6,606,641 B1) wherein Figure 2 assumed to be consistent with the detailed description and Figure 4. The admitted prior art shown in Figure 2 of the application discloses the claimed limitation except for a first selector for selecting a gain and a first multiplier for multiplying the gain with the selected coefficient sequence.

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Wittig et al. discloses multiplying a coefficient sequence with a variable gain. (See Figure 1 and column 5, lines 14-19) It is implicit that the gain is selected by a selector. It would have been obvious to one of ordinary skill in the art at the time the invention was made to multiply the coefficient sequence in Figure 2 of the application with a gain as taught by Wittig et al. in order to reduce the size of the multiplier in the circuit of Figure 2 without sacrificing multiplication accuracy. (See Wittig et al. column 5, lines 37-40)

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references also teach digital filters with coefficients multiplied by a selected gain: Del Signore (US Patent No. 5,935,199) and Nishida et al. (US Patent No. 5,970,091).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (703) 305-4960. The examiner can normally be reached on Monday, Tuesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

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or faxed to:

(703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Betsy L. Deppe
Primary Examiner
Art Unit 2634
February 3, 2004